

LIBRARY
NEW HAVEN
COLLEGE

300 Orange Avenue
West Haven, Connecticut





Digitized by the Internet Archive
in 2010 with funding from
Lyrasis Members and Sloan Foundation



**BULLETIN OF THE
NEW HAVEN YMCA
JUNIOR COLLEGE**

1944-1945

CONTENTS

	Page
General Information	3
Officers of Administration and Faculty	17
Aeronautical Engineering Program	
Chance Vought Aircraft	25
Tuition and Fees	27
Programs of Study	29
Description of Courses	33
Index	48
Calendar	Inside back cover

The photographs in this bulletin are reproduced with the special permission of Sheffield Scientific School, Yale University.

The photographs in this bulletin are reproduced with the special permission of Sheffield Scientific School of Yale University.

BULLETIN OF THE
NEW HAVEN YMCA JUNIOR COLLEGE
NEW HAVEN, CONNECTICUT

*Accredited by the Connecticut State Department of Education,
Member of American Association of Junior Colleges.*



25th Year

EVENING SESSIONS

CO-EDUCATIONAL



WINCHESTER HALL, Sheffield Scientific School,
Yale University.

ADMINISTRATIVE OFFICES

Winchester Hall	15 Prospect Street
New Haven 11, Conn.	Telephone 7-3131, Ext. 532

Office Hours

Monday, Wednesday, and Friday
9 A.M. to 5 P.M. and 7 P.M. to 10 P.M.

Tuesday and Thursday
9 A.M. to 5 P.M.

Saturday
9 A.M. to 1 P.M.

NEW HAVEN YMCA JUNIOR COLLEGE

The NEW HAVEN YMCA JUNIOR COLLEGE has one major purpose, that of providing educational opportunities for employed men and women in southern Connecticut. This is the broad purpose for which the College was founded a quarter of a century ago. This is the task which Yale University has delegated to the College, the task for which the University contributes faculty, classrooms, laboratories, libraries. This is the task for which the Y.M.C.A. funds, drawn from the Community Chest and other sources, are provided.

Stated differently, the College purposes:

1. To offer college-level instruction for employed men and women adapted to their needs and interests.
2. To coördinate the work of the College with the needs of business and industry through the Work-Study Program.
3. To serve special needs in the community by offering short-term courses consistent with (1) and (2).
4. To offer to students educational and vocational guidance through counseling, testing, and placement, in order to foster the maximum development and adjustment of each individual.
5. To offer advisory service to business and industrial organizations, relating to the installation, revision, and administration of training programs.





LAWRENCE L. BETHEL,
Director, and FLOYD W.
NEWTON, *Chairman of*
Board.

History of the College

Following World War I, the Young Men's Christian Association of New Haven organized a series of vocational courses to aid in the rehabilitation of returning veterans. This work grew to such proportions that in 1920 it became a branch of Northeastern University. This association continued until 1926 when, in order to secure greater flexibility to meet the needs of its students, the College was incorporated as an independent educational institution known as New Haven College. Nine years later the College was accredited by legislative act of the State of Connecticut and the name was changed to NEW HAVEN YMCA JUNIOR COLLEGE.

Coöperation with Yale University and the Y.M.C.A.

Although the College is affiliated with both Yale University and the Y.M.C.A., it is a separate corporation. Accordingly, it is accredited and degree granting in its own right.

Yale University, in which the College is located, contributes classrooms, laboratories, library facilities; it makes its faculty available for supervisory and teaching assignments. All classes are held in the various buildings of Sheffield Scientific School, including: Winchester Hall, Sheffield Hall, North Sheffield Hall, Sheffield Laboratory of Engineering Mechanics, Dunham Laboratory of Electrical Engineering, Mason Mechanical Engineering Laboratory, Hammond Metallurgical Laboratory and Sterling Chemistry Laboratory.

Another important contribution of the University is its library facilities. Although the College maintains a reference library in Win-

chester Hall, students also use certain of the technical libraries of the University: School of Engineering Library, and the Department of Applied Economics and Industrial Administration Library. With special permission, students may also use Sterling Memorial Library.

Finally, the majority of the departments of the College are supervised by members of the University faculty. In addition, fifty percent of the teaching staff are University professors and instructors. The faculty are selected from business and industry.

In addition to contributing funds toward the support of the College, the Y.M.C.A. also makes the facilities of its physical plant available to College students. Students are granted full physical privileges of the Y.

Work-Study Program and Company Coöperation

Recognizing that education is not a process confined to the classroom, the College has organized evening educational experiences which take notice of the student's job as well as his study. This form of co-operative education (which is currently being tried on an experimental basis at other colleges and universities) is frequently referred to as the Work-Study Program.

J. WATSON WILSON, *Director of Instruction and Group of Faculty.*



JAMES W. ORR, *Director of Student Personnel and student.*



Coöperative education has long believed that work experience was a desirable adjunct to educational experience—that regardless of the type of work, the experience was educational. The Work-Study Program goes one step further. It contends that if work is good, related work is better. It insists that the student's work experiences and educational experiences should be integrated. Breaking down the traditional barrier between the academic and the practical, Work-Study enables students to learn by working and studying at the same time. In such a program, the student's job becomes a laboratory—one in which he is engaged daily. In addition, like coöperative education, it enables the student to earn and learn at the same time.

Each company is encouraged to discover the pattern of coöperation which will facilitate the education of its student-employees. To facilitate such coöperation, eighty per cent of the companies have appointed official Work-Study coördinators who coöperate with the College in selecting students and in planning student study programs. In addition, these companies assist the College by: developing in-service training programs which are coördinated with College study, eliminating or reducing overtime, providing counseling service on the job, and providing confidential information concerning future plans for the student in the company.

In keeping with the program of coöperation which has been outlined, the College assumes the responsibility of continuously supplying to coöperating companies information concerning the progress of student-employees in the College. In addition to periodic reports concerning individual students, the College makes a practice of sending the students' grades and comments by faculty members to all companies unless the student presents in writing evidence to show that such information should be withheld.

Special Services to Business and Industry

Recent developments in business and industry and in education have brought to the fore certain war and post-war educational needs more or less unique to individual companies. To meet these needs, the College is currently arranging training agreements with companies whereby the College will provide the following kinds of special services:

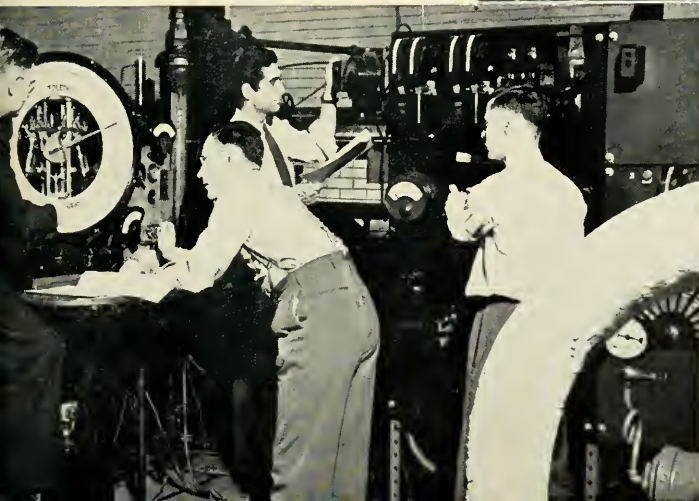
1. Organize special courses when and if, in consultation with official representatives of the Company, such are found necessary to meet the specific needs of the Company, or a group of related companies;
2. Consult with and assist the Company in the organization of in-plant training programs;

3. Consult with and assist the Company in the selection of employees for training in the Work-Study Program of the College or in special courses organized by the College to meet the specific needs of the Company;
4. Consult with and assist the Company in the planning and organization of in-plant work-experience appropriate to a co-ordinated training program of work and study for its employees;
5. Counsel and direct employees participating in the Work-Study Program of the College toward the full realization of the inter-relationship of work on the job and study in the College;

ELECTRICAL LABORATORY



MECHANICAL LABORATORY



6. Release to the Company special reports regarding training developments arising as a result of the joint efforts of the College and its associated industries in so far as these developments may be of a non-confidential nature and of value in their possible adaptation to the interests and needs of the Company.

Any company wishing to participate in these special services should contact the Director of the College.

Programs of Study

The educational point of view of the College is implement with a curriculum designed to meet the needs of student-employees. Three-year programs leading to the Degree of Associate in Science in engineering and business are offered in the following fields:

Accounting	Electrical Engineering
Business Administration	Industrial Engineering
Aeronautical Engineering	Mechanical Engineering
Sales and Service Engineering	

Each of these degree programs presumes that the student is employed in a field related to that which he is studying. Many of the general courses normally required of students majoring in these areas can thus be eliminated, allowing the student more time to concentrate upon his major interest. Accordingly, the individual courses which make up these degree programs are selected from each of the four years of a more traditional college program. The outlines of the various curricula are found on pages 29-32.

MATHEMATICS



MARKETING AND SALES





MACHINE DESIGN

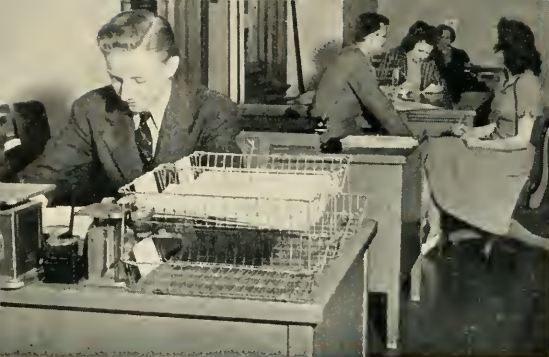
These programs are planned to meet a two-fold need. They offer to the high school graduate a college degree and a course which will give him technical training in a specialized field of study. They also provide an opportunity for men and women already established in business or industry to supplement their previous education. During the year 1943-44, for example, thirty-five percent of those enrolled were men and women with college training. Over two-thirds of these, or twenty-four percent of the student body, held one or more college degrees.

Unit Courses and Unclassified Students

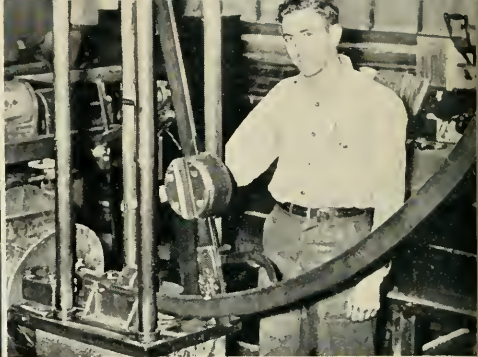
Although the majority of the students enrolled in the College are pursuing their Associate in Science degree in one of the fields listed, each year a number of students enroll for one or more individual courses. Many of these already have degrees from colleges and universities. Others do not wish to become candidates for the degree. Such students are listed as unclassified students and are admitted as regular students to any course for which they are qualified by previous education or experience.

Since educational needs of students, while important, do not necessarily coincide with those of students pursuing a degree curriculum, special courses are frequently offered for them. The educational level of such courses varies from the pre-college to the graduate level. Admission requirements vary accordingly.

Unclassified students who qualify may, of course, matriculate as degree students at any time.



At work, Connecticut Plan for Hospital Care.



At work, American Steel & Wire Co

Admission to the College

The College aims to admit only those students whose previous preparation qualifies them to pursue the studies to which they may be admitted. Three means are utilized in attempting to determine the student's eligibility: (1) personal interview, (2) study of the student's previous educational experience, and (3) the results of placement examinations.

Prior to making application for admission, each student is asked to confer with a member of the administrative staff. In this pre-registration conference an attempt is made to define the student's educational needs and to outline a program of studies which will satisfy those needs.

Although the College prescribes no set pattern of high school subjects as an entrance requirement, the following outlines of high school subjects are suggested as desirable:

For Admission to the Department of Engineering:	
English	3 units
Algebra	2 units
Geometry	1 unit
Physics or Chemistry.....	1 unit
Additional academic subjects, not less than.....	5 units
Vocational subjects, not more than	3 units
	15 units

For Admission to the Department of Accounting and Business Administration:	
English	3 units
History & Social Science.....	2 units
Mathematics	1 unit
Additional academic subjects not less than	4 units
Vocational subjects not more than	5 units
	15 units

Finally, all regular students are required to take a series of placement examinations. Although the specific examinations vary according to students' academic interest, all students are required to take a general psychological examination and tests in English and reading. All engineering students must take a diagnostic examination in mathematics.

In addition to the regular placement examinations, students may request or be required to take special examinations. The cost of all such special examinations is charged to the student.

Admission of Non-High School Graduates

Recognizing that many capable students withdraw from high school prior to graduation, the Connecticut State Department of Education provides an opportunity for these students to secure the legal equivalent of a high school diploma by means of State Equivalency Examinations.

Candidates for the Qualifying Academic Certificate must: (1) be graduates of or have the education equivalent to that of the eighth grade, (2) be sixteen years of age or over, and (3) not be enrolled in a regular day high school. In addition, they must pass examinations in four areas of academic study, usually mathematics, English, general science, and social science.

Students who are not high school graduates but meet the other requirements for admission to the College are permitted to enroll in special preparatory courses in the College on a conditional basis pending their qualifying for the State equivalency certificate. Students who hold State certificates may matriculate as regular degree students on the same basis as high school graduates.

For the convenience of students, these examinations are given at the College twice each year, in the fall and in the spring.

PROFESSOR HUGHES, *Engineering Drawing.*



MR. ROBERTSON, *Engineering Drawing.*





Schedule of Classes

Since the war, the calendar year has been divided into four ten-week academic semesters (fall, winter, spring and summer). Each of these is followed by a three-week vacation period. Under this plan students may begin their study in either October or March. The average degree student attends classes on Monday, Wednesday, and Friday evenings from 7:15 to 9:35.

Transfer of Credit

Credit toward advanced standing is given for study at other approved colleges and universities, if such work is similar in content and character to corresponding courses in NEW HAVEN YMCA JUNIOR COLLEGE. Each such transfer is considered on its individual merits. Factors determining the amount of credit to be given for study elsewhere include: number of credit hours, grades, course content, and program or course to which the student seeks admission. Candidates for the Associate of Science degree must complete at least one year of study in the College.

In accordance with the usual practice among institutions of higher education, transfer of credit from the College to any other institution is dependent upon the requirements of that institution to which the transfer is made. Since the NEW HAVEN YMCA JUNIOR COLLEGE is an accredited institution, its credits are recognized by the major institutions of the country.

Credit by Examination

Since it is the stated policy of the College that no student shall be required to take courses which he does not need because of previous experience or education, and since his previous experience or educa-

tion may have been with a non-accredited institution or agency of a type which makes transfer of credit impossible, a student may meet course prerequisites and establish credit by successfully passing a "crediting examination." To be eligible to take such an examination, the student's written request must be approved by the administrative committee of the College.

Grading System

The following system of grading is in use, and except where otherwise specified, applies to both examinations and term work. Grades are issued each semester.

A Superior work	F Condition
B Good work	FF Indicates that the course must be repeated
C Fair work	Inc. Incomplete
D Lowest passing grade	
X Absent from final examination	

A student is expected to achieve a C average in the combined work for any one year before advancing into the succeeding year.

In order to receive credit in a course for the semester, the student must not have over four absences in courses meeting for a 130 minute period or over eight absences in courses meeting for a 65 minute period.



Graduation Requirements

Candidates for graduation are recommended by the faculty. These candidates must have completed one of the three-year curricula of sixty semester hours. At least fifteen semester hours credit must be completed in the College, irrespective of the amount of credit earned in other institutions.

Placement Service

The College attempts to act as a clearing house for the placement of students. However, before an application for placement is accepted, the student is required to exhaust all the possibilities of advancement in his own company through consultation with his employer regarding such possibilities. Because of this policy of the College, relatively few students change companies; and frequently the employee is called to the attention of his employer. Likewise the employee also is led to see possibilities within his own organization before unknown to him.

Withdrawal

In the event of withdrawal from college because of illness, a change in working hours necessitating evening employment, or removal from the community, tuition cancellations will be made as of the first of the following payment period. Tuition refunds to those paying in advance will be made on the basis of deferred payment charges.

All students whose applications have been accepted will be considered members of the College and liable for tuition, until they have notified the office in writing of their intention to withdraw.

Student Loan Funds

The College has been the recipient of gifts from individuals interested in assisting students. Some of these gifts have been especially designated as revolving loan funds.

The purpose of the loan fund is to assist students who have attended the college for at least one semester. A limited portion, however, is available for students entering the College for the first time. The fund is administered by a committee of the faculty in accordance with policies established by the Board of Governors of the College.

Application should be made to the Director.

Scholarships

A scholarship amounts to approximately one-half the tuition. An award, made for the first semester, is usually renewed the second semester upon the satisfactory performance of the student. A few scholarships are made available to first-year students.

Applications should be presented well in advance of the beginning of the school year. Awards are decided by the Committee on the qualifications presented. Indication of the ability to profit from the course of study to be followed is a determining factor.

In addition to general scholarships, certain special scholarships are available: Foremen's Club Scholarship, Alumni Scholarships, Board of Governors Scholarships, Faculty Scholarships.

DUNHAM
ELECTRICAL
LABORATORY,
Sheffield
Scientific School,
Yale University



Student Activities

Although limited somewhat by the amount of time available—especially since the beginning of the war, a student activity program is sponsored by the Student Council.

The Y.M.C.A. is, of course, the center of men's *athletic activities* including: bowling, tennis, swimming, golf, handball, and many others. Most popular of the *social activities* are the formal dances held twice each year at the close of the examination periods.

Finally, there are a number of *scholastic activities* of which the following are illustrative: the *Engineering Honor Club*, to which engineering students who maintain a scholastic average of "B" may be invited; the *Business Administration Club*, open to students in accounting and business administration; and the *Agora Club* which is open to those who have studied public speaking.

The Alumni Association

More than 8000 students have attended the College since its founding. The alumni participate in the administration of the College by electing representatives to the Board of Governors; they encourage academic scholarship by making annual awards to the highest ranking senior in engineering and business departments.

E.S.M.W.T. Courses

Since October, 1940, the College has been responsible for the administration of special war training courses in coöperation with Yale University. These courses, given under the Engineering, Science and Management War Training Program are sponsored by the United States Office of Education. Designed to meet specific war needs, the courses offered under this program do not carry college credit. About 7,000 men and women have enrolled in one or more of these courses since January, 1940.



BOARD OF GOVERNORS

FLOYD I. NEWTON, <i>Chairman</i>	Secretary and Assistant Treasurer, G. & O. Manufacturing Company
ALLERTON F. BROOKS	President, The Southern New England Telephone Company
SAMUEL W. DUDLEY	Dean, School of Engineering, Yale University
STUART W. FINLAY	Day, Stoddard and Williams, Incorporated
HENRY P. HASS	Assistant Superintendent, Mechanical Department, New York, New Haven & Hartford Railroad Company
GEORGE S. HAWLEY	The Fritz & Hawley Company
CLYDE M. HILL	Chairman, Department of Education, Yale University
FORREST R. HUGHES	Representative of Faculty, Institutional Representative Engineering, Science, and Management War Training, Yale University
ELLIS C. MAXCY	Assistant to the Vice-President, Employee Development, The Southern New England Telephone Company
JOHN R. MCCURDY	General Secretary, Young Men's Christian Association
WILLIS H. PRATT, JR.	Supervisor, Plant Training, The Southern New England Telephone Company
HOWARD G. SPENCER	Supervisor, Cashier's Department, Connecticut Plan for Hospital Care
BULKELEY SMITH	Vice-President, American Tube Bending Company
COLEMAN S. WILLIAMS	Research Engineer, Winchester Repeating Arms Company

EXECUTIVE COMMITTEE

FLOYD I. NEWTON, *Chairman*, SAMUEL W. DUDLEY, STUART W. FINLAY, CLYDE M. HILL, ELLIS C. MAXCY, JOHN R. MCCURDY

TRUSTEES

HUDSON B. HASTINGS, *President*

CHARLES O. EVARTS, *Treasurer*

HERBERT D. ACKLEY, GEORGE F. BARNES, D. SPENCER BERGER, HAROLD L. BLAKESLEE, WILLIAM BOWER, CHARLES A. BRADLEY, FRANK E. BRAINERD, GEORGE E. BRICKWOOD, CLARENCE W. BRONSON, WILLIAM L. BROWN, SAMUEL M. BROWNELL, CHARLES W. CARON, C. KENNETH CATLIN, A. BRYAN CLARK, JR., WILLIAM G. CLEAVER, D. BENTON CRITTENDEN, CLARENCE W. CROOK, FRED J. DAWLESS, EDWARD M. FOLEY, ARTHUR R. GOW, ROBERT J. H. KIPHUTH, ELLIS C. MAXCY, PHILIP E. NELBACH, WARREN G. PERKINS, ALLEN K. POOLE, KENDALL A. REDFIELD, THOMAS F. RICHARDSON, CLARENCE P. SHEDD, CARLETON G. SMITH, LUTHER TUCKER, RALPH L. WOODWARD.

ADMINISTRATIVE STAFF

LAWRENCE L. BETHEL, B.S., M.A., PH.D.	Director
J. WATSON WILSON, A.B., M.A., PH.D.	Director of Instruction
JAMES M. ORR, A.B., M.ED.	Director of Student Personnel
HENRY W. LITTLEFIELD, B.S., M.A., PH.D.,	
	Assistant Director of Instruction
JULIA M. STOCKOVER, A.B.	Registrar
KATHARINE BLENIS, A.B., B.S.	Secretary to the College
RHODA GINTER	Bursar
A. EDWINA KENNEY.	Secretary to Director of Instruction
MARGARET P. DAVIS.	Secretary to Director of Student Personnel
LOIS F. CONRAD	Clerical Assistant
MARGARET M. MASON	Clerical Assistant

ADMINISTRATIVE COMMITTEE

LAWRENCE L. BETHEL, <i>Chairman</i>	HENRY W. LITTLEFIELD
FORREST R. HUGHES	JAMES M. ORR
J. WATSON WILSON	

FACULTY ADVISORY COMMITTEE

J. WATSON WILSON, <i>Chairman</i>	FORREST R. HUGHES
FRED J. BECK	FREDERIC W. KEATOR
SAMUEL S. BOARD, JR.	EGBERT J. MILES
DWIGHT C. ECKERMAN	JAMES M. ORR
JOHN R. EDWARDS	THOMAS ROBERTSON
FREDERICK F. FISCHER	HAROLD W. SHELDON
GEORGE H. E. SMITH	

FACULTY SCHOLARSHIP COMMITTEE

EGBERT J. MILES, <i>Chairman</i>	FREDERICK F. FISCHER
C. E. BOOTH	JULIA M. STOCKOVER
GEORGE R. TIERNAN	

FACULTY 1943-44

*ESMWT Program only.

- *ACHORN, LEE *Motor Transportation & Traffic*
Assistant Traffic Manager, Adley Express Company
- *BAUMES, CARL *Office Supervisor*
A.B., Union College; Office Supervisor, R. Wallace & Sons.
- BECK, FRED JOHN, JR. *Electricity*
E.E., Brooklyn Polytechnic Institute; Ph.D., Yale University,
Associate Professor, Department of Electrical Engineering,
Yale University.
- BETHEL, LAWRENCE L. *Director*
M.A., Columbia University; Ph.D., Yale University.
- *BERNSTEIN, PHILIP *Job Evaluation*
Ph.B., Yale University, Winchester Repeating Arms Company.
- *BLACKBURN, CLARK W. *Personnel Counseling*
A.B., Yale University, M.S., Western Reserve University,
Director, Family Service Society, Hartford.
- BLENIS, KATHARINE *Secretary to the College*
A.B., New York State College; B.S., Simmons College.
- BOARD, SAMUEL S., JR. *Machine Design, Welding Design, Drafting*
B.E., Yale University; Methods Production Control Engineer,
Farrel-Birmingham Company, Inc.
- BOOTH, C. E. *Engineering Problems, Mathematics*
Ph.B., Yale University; Plant Engineer, Brock-Hall Dairy Co.
- *BRENNAN, PAUL J. *Engineering Drawing*
B. Arch. E., University of Detroit, Laboratory Assistant,
Yale University.
- *BRICK, ROBERT M. *Metallurgy*
Met. E., Lehigh University; Ph.D., Yale University;
Assistant Professor, Yale University.
- *CASSIDY, HAROLD G. *Chemistry*
B.A., M.A., Oberlin College; Ph.D., Yale University;
Assistant Professor, Department of Chemistry, Yale University.
- *CLARK, MYRON H. *Industrial Supervision*
B.S., Massachusetts Institute of Technology; Consultant on
Management, Myron H. Clark & Associates.
- COBEY, DONALD E. *Law*
B.A., LL.B., Yale University; Attorney-at-Law, Stoddard,
Persky, and Eagan.

FACULTY

- *COE, FRANK S. *Organization and Management of Industrial Training*
 B.S., Montclair Teachers College;
 B.S., Newark College of Engineering; Training Supervisor,
 Chance Vought Aircraft Corporation.
- CONKLING, GEORGE J. *Accounting*
 A.S., New Haven YMCA Junior College; Supervising Auditor,
 Auditor Public Accounts, State of Connecticut.
- DAWLESS, FRED J. *Marketing and Sales*
 Manager, New Haven Branch, Crucible Steel Company of
 America.
- *DIETRICH, HAROLD G. *Chemistry*
 B.A., Oberlin College; Ph.D., Yale University; Assistant
 Professor of Chemistry, Yale University.
- *DUBOIS, C. ARTHUR *Organization and Management of Industrial Training*
 B.A., Yale University; Director of Training, Scovill
 Manufacturing Company.
- DURFEE, STANLEY *Accounting*
 A.B.A., New Haven College; Secretary, The Charles S. Leete
 Company, Inc.
- *DURYEE, LAWRENCE M. *Electricity*
 B.S., Stanford University; Industrial Power Engineer,
 Connecticut Light and Power Company.
- ECKERMAN, DWIGHT C. *Public Speaking*
 B.A., Monmouth College; M.A., Yale University; Editor,
 New Haven Journal-Courier.
- *EDWARDS, JOHN R. *Organization and Management of Industrial Training*
 B.E., Yale University; Personnel Supervisor, The Southern
 New England Telephone Company.
- FELLERS, RUFUS G. *Electricity*
 B.S. in E.E., University of Southern Carolina; Ph.D., Yale
 University; Instructor in Electrical Engineering, Yale University.
- *FINSINGER, F. JOSEPH *Organization and Management of Industrial Training*
 B.S., Pennsylvania State University; Supervisor of Training
 General Electric Company.
- FISCHER, FREDERICK F. *Accounting*
 B.C.A., Northeastern University; C.P.A., State of Connecticut;
 Public Accountant.
- *FOUNTAIN, FRANK L. *Transportation and Traffic Control*
 Sales Manager, Adley Express Company.

FACULTY

- FRANCE, WALTER D. *Metallurgy*
 B.S., M.E., Yale University; Metallurgist, Scovill
 Manufacturing Company.
- *FRASER, GEORGE R. *Transportation and Traffic Control*
 Industrial Traffic Manager, Chase Brass & Copper Company.
- *GEISE, EDWARD J. *Rubber Technology*
 Ch.E., Rensselaer Polytechnic Institute; U. S. Rubber Company.
- *GRABBER, ERNEST F. *Inspection of Materials*
 B.S., Yale University; Waterbury Tool Company.
- GRANT, JOHN B. *Law*
 B.A., LL.B., Yale University; Attorney-at-Law, Watrous,
 Gumbart and Corbin.
- *GRIFFIN, JAMES B. *Transportation and Traffic Control*
 Superintendent of Traffic, Scovill Manufacturing Company.
- HALL, NEWMAN A. *Mathematics*
 A.B., Marietta College; Ph.D., California Institute of
 Technology; Research Engineer, Chance Vought Aircraft.
- *HATTON, ARTHUR T. *Industrial Electronics*
 B.S., Northeastern University; Consultant Engineer,
 Arthur T. Hatton Company.
- *HORWITT, GEORGE L. *Inspection of Materials*
 B.S., Rensselaer Polytechnic Institute; Army Air Forces
 Inspector.
- *HUBE, RICHARD W. *Production Control*
 Production Control Supervisor, Fafnir Bearing Company.
- *HUGHES, FORREST R. *Institutional Representative ESMWT*
 B.S., C.E., University of Missouri; Assistant Professor of
 Engineering Drawing, Yale University.
- *HUNT, LEIGH W. *Tool Design*
 Assistant Chief Draftsman, Safety Car Heating and Lighting
 Company.
- JONAH, FRED C. *Mathematics*
 A.B., Mt. Allison University; M.A., Ph.D., Brown University;
 Project Analytical Engineer, Chance Vought Aircraft.
- KEATOR, FREDERIC W. *Power Plants, Mechanics*
 B.S., University of Washington; M.E., Yale University;
 Associate Professor of Mechanical Engineering, Yale University.
- *KOLLER, RAYMOND R. *Industrial Safety*
 A.B., Pennsylvania State College; Safety Engineering,
 Farrel-Birmingham Company.
- KOSSACK, CARL R. *Mathematics*
 B.A., M.A., Yale University; Instructor in Mathematics,
 Yale University.

FACULTY

- *KRAUSS, HERBERT L. *Industrial Electronics*
B.S. in E.E., University of Kansas; M.E., Yale University;
Assistant Professor of Electrical Engineering, Yale University.
- LITTLEFIELD, HENRY W. *Assistant Director of Instruction*
B.S., M.A., New York University; Ph.D., Yale University.
- *MAERZ, JOHN F. *Motor Transportation and Traffic*
Secretary General Manager, Motor Truck Association of Conn.
- *MANVEL, WRIGHT H. *Job Evaluation*
B.S. in M.E., Worcester Polytechnic Institute; General
Electric Company.
- *MARTIN, EVERETT W. *Industrial Safety*
B.S., Harvard University; Safety Engineer, Liberty Mutual
Insurance Company.
- *McCANN, STELLA M. *Organization and Management of Industrial*
Training
Rhode Island College of Education; Assistant Industrial
Relations Manager, U. S. Rubber Company.
- *MAXCY, ELLIS C. *Office Supervision*
B.B.A., Northeastern University; Ph.D., Yale University;
Assistant to the Vice-President, The Southern New England
Telephone Company.
- MILES, EGBERT J. *Mathematics*
A.B., Indiana University; A.M., Swarthmore College;
Ph.D., University of Chicago; Associate Professor of Mathematics
Yale University.
- *MORTON, NEWTON *Transportation and Traffic Control*
B.S., University of Pennsylvania; Freight Representative,
Pennsylvania Railroad Company.
- MOSKI, BRUNO A. *Senior Problems, Methods Engineering*
B.S., Yale University; Head of Industrial Engineering
Department, Sargent and Company.
- *NYITRAY, EMIL *Industrial Electronics*
Massachusetts Institute of Technology.
Electrical Engineer, Soundsciber Corporation.
- *O'BRIEN, WILLIAM J. *Rubber Technology*
B.A., M.A., Wesleyan University; Chemist, Seamless Rubber
Company.
- *ORDUNG, P. FRANKLIN *Industrial Electronics*
B.S., South Dakota; M.E., Yale University; Instructor in
Electrical Engineering, Yale University.
- ORR, JAMES M. *Director of Student Personnel*
B.A., Muskingum College; M. Ed., University of Pittsburgh.

- *OWENS, ERNEST *Rubber Technology*
B.S., Rensselaer Polytechnic Institute; Chemist, U. S.
Rubber Company.
- QUINN, QUENTIN Q. *Electricity*
Bliss Electrical School; Engineering Assistant, Connecticut
Light & Power Company.
- *RAMSDELL, JOHN M. *Office Supervision*
A.S., New Haven YMCA Junior College; Office Manager,
Connecticut Plan for Hospital Care.
- *RICHARDSON, HENRY M. *Plastics Technology*
B.S., University of Colorado; Consulting Engineer.
- *RICHARDSON, JOY O. *Advanced Drafting, Tool Design*
B.S. in M.E., University of Nebraska; M.E., Yale University;
Instructor, Yale University.
- *ROBERTS, PAUL R. *Industrial Safety*
B.S., University of Pennsylvania; Safety Engineer,
Naugatuck Chemical Company.
- ROBERTSON, THOMAS *Engineering Drawing*
Pratt Institute; Consulting Engineer, Westcott and Mapes, Inc.
- ROHSENOW, WARREN M. *Strength of Materials, Machine Design*
B.S. in M.E., Northwestern University; D. Engr., Yale
University; Instructor in Mechanical Engineering, Yale
University.
- *ROSS, ARTHUR M. *Plastics Technology*
B.S., Ph.D., Yale University; Assistant Director, Laboratory,
General Electric Company.
- ROSAZZA, EUGENE J. *Industrial Management*
A.S., New Haven YMCA Junior College; Plant Records
Supervisor, United Illuminating Company.
- *RUMBERG, ERNEST F. *Production Control*
M.E., Stevens Institute; Industrial Engineer,
Scovill Manufacturing Company.
- *RUNG, EDWARD E. *Production Control*
B.S., Pennsylvania State College; Scovill Manufacturing
Company.
- *SCOUTTEN, ELTON F. *Plastics Technology*
B.S., Kent State University; M.A., Ph.D., Ohio State University,
U. S. Rubber Company.
- SHELDON, HAROLD W. *Accounting*
A.B.A., New Haven College; C.P.A., State of Connecticut;
Public Accountant.
- SHERWIN, SAMUEL B. *Aerodynamics*
B.S., College of the City of New York; M. Aero. E., New
York University; Structural Developments Engineer,
Chance Vought Aircraft.
- SMITH, GEORGE H. E. *Economics*
M.A., LL.B., University of Michigan; Economist, Writer.

FACULTY

- SPITZER, CHARLES F. *Electricity*
 B.S., Swarthmore College; M.S., Yale University;
 Instructor in Electrical Engineering, Yale University.
- *STACKMAN, HARVEY A., JR. *Personnel Problems*
 B.S., Indiana University.
 Job Evaluation and Personnel Coördination, Scovill
 Manufacturing Company.
- STOCKOVER, JULIA M. *Registrar*
 B.A., Mount Holyoke College.
- STRAW, HARRY ARTHUR *Mathematics*
 Yale University.
- *STRICKLAND, ROYCE M. *Tool Design*
 Chief Draftsman, Geometric Tool Company.
- TIERNAN, GEORGE R. *Law*
 B.A., Yale University; LL.B., Cornell University; Attorney-at-Law.
- *TURNER, HUBERT M. *Electricity*
 B.S. in E.E., M.S., University of Illinois;
 Associate Professor of Electrical Engineering, Yale University.
- *WARFIELD, GEORGE K. *Principles of Inspection*
 B.S., Yale University; Army Air Forces, Inspector.
- WATERS, EVERETT O. *Chairman of Chance Vought Faculty*
 B.A., Ph.B., M.E., Yale University; Professor of Mechanical
 Engineering, Yale University.
- *WEST, HERBERT J. *Plastics Technology*
 B.A., Manchester School of Technology (England); Research
 Chemist, American Cyanamid Corporation.
- WESTON, ROLFE A. *Accounting*
 B.A., Dalhousie University; Certified Public Accountant,
 State of Connecticut; Member of American Institute of
 Accountants; Public Accountant.
- WILSON, J. WATSON *Director of Instruction*
 A.B., Muskingum College; M.A., Ph.D., Yale University.
- *WITTENBORN, JOHN R. *Personnel Counseling*
 B.Ed., Southern Illinois State Teachers College; M.S., Ph.D.,
 University of Illinois: Instructor in Psychology, Yale University.
- *WOLFF, ARMOND T. *Motion and Time Study, Methods Engineering*
 M.E., Industrial Engineer Scovill Manufacturing Company.
- *WRIGHT, ARTHUR S. *Engineering Drawing*
 Sargent & Company.
- *WYLLIE, DAVID *Engineering Drawing*
 B.S., Bates College; M.A., New York University; Instructor
 of Drawing, Hamden High School.
- ZWEIG, FELIX *Electricity*
 B.S., Ph.D., Yale University; Assistant Professor,
 Electrical Engineering, Yale University.

AERONAUTICAL ENGINEERING PROGRAM

CHANCE VOUGHT AIRCRAFT

At the request of employees and management of Chance Vought Aircraft, the College developed, in the spring of 1944, a curriculum in Aeronautical Engineering. In announcing plans for this curriculum, R. J. Erler, Jr., Supervisor of Engineering Personnel, set forth the purposes of this educational venture when he wrote: "The courses are offered to meet the specific needs of employees. Obviously, Chance Vought Aircraft will benefit from this program since those employees who participate will be better trained, but whatever benefit the company receives is, and rightly so, secondary to that received by the individual."

Since the program is a Work-Study one, planned for men employed in an aeronautical industry, the advanced courses will be open only to men thus employed, and will be offered only at the Chance Vought plant in Stratford.

The new aeronautical curricula was developed by a special committee of the Faculty and approved by the Board of Governors. It is still in tentative form, and will not become final until such a time as it has been seriously studied by a committee of students and representatives of the Engineering Department of Chance Vought Aircraft. This tentative curriculum is outlined on page 30.

Transitional Courses

In providing educational opportunities for men and women employed at Chance Vought, the College purposes to "fit" its courses to the needs of students (many of whom have had from one to five years of college study), rather than to "fit" the students into courses. The College believes that in many cases this can best be accomplished by grouping students according to their educational background, and by developing "transitional courses" which will enable them to "round out" their education and to meet graduation requirements in a minimum of time.

Such transitional courses are being developed in mathematics, engineering mechanics, strength of materials, and aerodynamics.

AERONAUTICAL ENGINEERING

Advanced Courses

In addition to a formal curriculum in Aeronautical Engineering, advanced (graduate level) courses will be developed from time to time to meet the needs of special groups of individuals. Two such courses are currently being offered: Advanced Engineering Mathematics (M 101-102) and Advanced Strength of Materials (EM 101-102).

Financing of the Program

Since the NEW HAVEN YMCA JUNIOR COLLEGE is a non-profit educational institution, operating at a cost in excess of income from tuition, the Board of Governors of the College has set up a special budget for the Chance Vought courses. This budget provides for the continuation of the program "only as long as there is an average enrollment of fifteen students per course."

Tuition and fees for these courses are the same as those paid by students enrolled in New Haven. However, all such tuition and fees are payable on a semester basis, and must be paid on or before the opening day of any course. Further, students who find it necessary to withdraw from any course for any reason (military service excepted) will forfeit all payments. In the case of students' entering the armed services, tuition will be refunded on a prorated basis, dating from the day the student officially terminates his employment with the company.

ADMINISTRATIVE OFFICERS FOR CHANCE VOUGHT PROGRAM

For the College

LAWRENCE L. BETHEL, B.S., M.A., PH.D.	<i>Director</i>
J. WATSON WILSON, B.A., M.A., PH.D.	<i>Director of Instruction</i>
JAMES M. ORR, B.A., M.ED.	<i>Director of Student Personnel</i>
EVERETT O. WATERS, B.A., PH.B., M.E.	<i>Chairman of Faculty</i>
JULIA M. STOCKOVER, B.A.	<i>Registrar</i>
RHODA E. GINTER	<i>Bursar</i>

TUITION AND FEES

For Chance Vought

R. J. ERLER, JR., M.E. *Supervisor of Engineering Personnel*
 FRANK COE, B. S. *Administrator of Engineering Training*

Student Advisory Committee

BENJAMIN CROCKER	EDWARD MACDONOUGH
ALEXANDER GOLDBERG	JOSEPH RATHAUS
CARMINE JORDAN	THOMAS SALERNO
JOSEPH ELOVITZ	SIDNEY STARK

Departmental Advisory Committee

(To Be Announced)

TUITION AND FEES

REGISTRATION FEE	\$3.00
(Required only of students registering for the first time)	
LATE REGISTRATION FEE	5.00
(Required of students registering after close of registration period. See calendar, inside back cover)	
TUITION	22.00
(per course per semester)	
DEFERRED CHARGE	1.00
STUDENT ACTIVITIES FEE	.50
MAKE-UP EXAMINATION	5.00
(Required only of students who for any reason do not take semester examinations at scheduled time)	
CREDITING EXAMINATION	5.00
(For students, who because of previous experience or education, are qualified to establish credit by examina- tion rather than by class attendance)	
DIPLOMA FEE	10.00

PAYMENT DATES

Schedule of Tuition Payment Dates

Cash Plan:

Tuition fees for each semester are as follows:

	5 sem. hrs.	2½ sem. hrs.
Due when semester begins	\$17.50†	\$ 9.50†
Due on or before date of second payment	27.00	13.00
	\$44.50	\$22.50

Deferred Plan:

The tuition rate per semester on the deferred plan is \$45.00 for two subjects and \$23.00 for one subject. It is payable as follows:

Fall 1944

	5 sem. hrs.	2½ sem. hrs.
October 4	\$17.50†	\$9.50†
October 30	14.00	7.00
November 20	14.00	7.00

Winter 1945

January 8	17.50†	9.50†
January 29	14.00	7.00
February 19	14.00	7.00

Spring

April 2	17.50†	9.50†
April 30	14.00	7.00
May 21	14.00	7.00

Summer

July 9	17.50†	9.50†
July 30	14.00	7.00
August 27	14.00	7.00

† Not refundable. Includes student fee.

Programs of Study

ACCOUNTING

This course has been carefully outlined to provide the accounting theory and legal knowledge required of those who are planning to take the state examination for the degree of Certified Public Accountant. It offers also the technical knowledge and related background required of those who wish to qualify as auditors, treasurers, controllers and other similar positions in either public service or private business corporations where thorough accounting training is a requisite.

Definite choice between industrial accounting and public accounting should be made by the third year. Individual conferences will be arranged through the college office for students who are uncertain as to their aptitudes or who wish to discuss the particular contributions of the courses to their vocational interests.

Fall and Winter

Spring and Summer

First Year

Accounting (A 11-12)
Economics (Ec 11-12)

Cost Accounting (A 22-23)
Law of Contracts and Business
Associations (L 11-12)

Second Year

Accounting (A 21-22)
Law of Sales (L 21)
Law of Commercial Paper (L 22)

Accounting (A 31-32)
English (E 11-12)

Third Year

Auditing (A 33-34)
Income Tax (A 41-42)

Social Problems (Ec 31-32)
Budgetary Control (Ec 41-42)
or
C.P.A. Problems (A 43-44)

AERONAUTICAL ENGINEERING

This is a technical program planned to prepare men for positions of responsibility in the designing and engineering departments of the aircraft industry. As it is planned in coöperation with the Chance Vought Aircraft Corporation, it is expected that students enrolled in the advanced courses will be employed in one of the divisions of the United Aircraft Corporation.

First Year

Fall and Winter

English Composition (E 11-12)
Basic Mathematics (M 11-12)

Spring and Summer

Engineering Problems (Pr 11-12)
Basic Mathematics (M 21-22)

Second Year

Engineering Drawing (D 21-22)
Mechanics (EM 21-22)

Strength of Materials (EM 31-32)
Fluid Mechanics (EM 35-36)

Third Year

Elementary Aerodynamics

(Ae 31-32)

Advanced Aerodynamics

(Ae 41-42)

Aircraft Structures (EM 41-42)

Aircraft Stress Analysis (D 43-44)

BUSINESS ADMINISTRATION

The curriculum in business administration offers a systematic program of study as a broad foundation for positions of responsibility in the major areas of business activity. These areas include such varied fields as banking, purchasing, selling, merchandising, personnel work, and the business phases of manufacturing. Knowledge of the underlying principles of commerce, finance, and administration is essential to advancement in the fields of business.

First Year

Fall and Winter

Accounting (A 11-12)
Economics (Ec 11-12)

Spring and Summer

Cost Accounting (A 25)
Elective
Law of Contracts and Business
Associations (L 11-12)

Second Year

Accounting (A 21-22)
Law of Sales (L 21)
Law of Commercial Paper (L 22)

Budgetary Control (Ec 41-42)
English (E 11-12)

Third Year

Public Speaking (E 21-22)

Marketing and Sales (Ec 33-34)

Social Problems (Ec 31-32)

Elective

ELECTRICAL ENGINEERING

The object of this program of study is to provide a broad, general training in the fundamental principles and methods which underlie the whole field of electrical engineering. Classes are held in Dunham Laboratory of Electrical Engineering at Yale University, which is well equipped with power machinery, measuring instruments, and apparatus for the study of electrical circuits and electronic phenomena.

First Year

Fall and Winter

English Composition (E 11-12)
Basic Mathematics (M 11-12)

Spring and Summer

Engineering Problems (Pr 11-12)
Elective

Second Year

Basic Mathematics (M 21-22)
Mechanics (EM 21-22)

Strength of Materials (EM 31-32)
D.C. Circuits and Machines
(EE 21-22)

Third Year

Power Plants (Pr 41-42)
A.C. Circuits (EE 31-32)

Senior Problems (Pr 43-44)
A.C. Machines (EE 41-42)

INDUSTRIAL ENGINEERING

This program prepares men for administrative positions, such as production supervisor, department head, foreman, or cost administrator. It provides a general background in engineering techniques, principles of economics, and accepted practices in personnel administration.

First Year

Fall and Winter

English Composition (E 11-12)
Basic Mathematics (M 11-12)

Spring and Summer

Engineering Problems (Pr 11-12)
Industrial Management (Ec 21)
Personnel Administration (Ec 22)

Second Year

Basic Mathematics (M 21-22)
Mechanics (EM 21-22)

Elective
Engineering Drawing (D 21-22)

Third Year

Economics (Ec 11-12)
Elective

Senior Problems (Pr 43-44)
Elective

SALES AND SERVICE ENGINEERING

This program makes it possible for the young man in industry to prepare as a salesman and engineering consultant. It develops in the student an understanding of economic principles and business procedures necessary to successful sales relationship. It also gives him an opportunity to secure a general background in engineering which will enable him to understand the engineering problems of his customers.

First Year

Fall and Winter

English Composition (E 11-12)
Basic Mathematics (M 11-12)

Spring and Summer

Engineering Problems (Pr 11-12)
Elective

Second Year

Basic Mathematics (M 21-22)
Mechanics (EM 21-22)

Elective
Engineering Drawing (D 21-22)

Third Year

Economics (Ec 11-12)
Marketing and Sales (Ec 33-34)

Senior Problems (Pr 43-44)
Elective

MECHANICAL ENGINEERING

The program in mechanical engineering prepares men for designing various types of machinery and mechanical equipment, and for analyzing and planning mechanical processes. Laboratory work is integrated with other phases of class procedure as it may be found appropriate to the subject matter. Training is provided in both the technical and administrative work in the mechanical or manufacturing industries.

First Year

Fall and Winter

English Composition (E 11-12)
Basic Mathematics (M 11-12)

Spring and Summer

Engineering Problems (Pr 11-12)
Elective

Second Year

Basic Mathematics (M 21-22)
Mechanics (EM 21-22)

Strength of Materials (EM 31-32)
Engineering Drawing (D 21-22)

Third Year

Power Plants (Pr 41-42)
Elementary Machine Design
(D 33-34)

Senior Problems (Pr 43-44)
Advanced Machine Design
(D 41-42)

Description of Courses

In numbering the courses the following general plan is followed:

Numbers 11-19 are Freshmen level courses

Numbers 21-29 are Sophomore level courses

Numbers 31-39 are Junior level courses

Numbers 41-49 are Senior level courses

Numbers 100-199 are Graduate level courses

Letters, A, B, C, D, are primarily pre-college courses.

Odd numbers indicate first semester course; even numbers indicate second semester course.

The College reserves the right to withdraw any course for which there is insufficient demand.

ACCOUNTING (A)

Instructors and assistants: GEORGE J. CONKLING, STANLEY DURFEE, FREDERICK F. FISCHER, HAROLD W. SHELDON, ROLFE A. WESTON.

Accounting (A 11-12).

Credit, 5 semester hours.

This course is designed to give a thorough foundation in the theory of accounting. The fields of study covered include: interpretation of assets, liabilities and net worth, preparation of statements, books of original entry, ledger accounts, and closing books. In the development of the general theory, actual business problems are presented for discussion and solution.

ACCOUNTING

Accounting (A 21-22).

Credit, 5 semester hours.

More advanced problems in the general field of accounting are covered in this course. Special attention is given to the adjustment of book records to reflect true conditions, to the preparation and interpretation of manufacturing accounts and statements, to partnership accounting and problems, and to accounting problems affecting corporations. The corporate balance sheet and the profit and loss statement, together with their respective accounts, are interpreted.

Cost Accounting (A 23-24).

Credit, 5 semester hours.

The basic requirements of cost accounting are developed during the first semester. Studies are made of materials, labor, and overhead accounting and control. A complete "Job Order" cost is worked out by the student. Assignments include various problems encountered in "Specific" or "Job Order" costs. A thorough study is made of cost statements, reports for management, and the control of distribution and selling costs.

The "Process" type of cost systems is developed at the beginning of the second semester. This is followed by a complete survey of "Standard" cost systems used both as "Basic Standards" and "Current Standards". The latest improvements in the application of standard costs to budgetary control are brought out.

Prerequisite, A 11-12.

Cost Accounting (A 25).

Credit, 2½ semester hours.

This course is intended for students of business administration. It reviews the various types of cost systems and their use particularly from the executive viewpoint. Cost reports and analysis statements needed in managerial control are stressed. No attempt is made to develop a thorough knowledge of cost accounting.

Prerequisite, A 11-12.

Accounting (A 31-32).

Credit, 5 semester hours.

This course is planned to cover subjects more advanced than those of the first and second years. It will include branch accounting and elementary coverage of consolidated statements, statements of application of funds, and accounting for estates and trusts. Selected problems from C.P.A. examinations will serve to review and drive home principles of accounting and accounting practice covered in the first and second years.

Auditing (A 33-34).**Credit, 5 semester hours.**

This course includes a consideration of the problems arising in the practice of the professional accountant, particularly with reference to balance sheet and general audits. Relationship with the client, the working papers, the audit procedure and program, the accounting principles, the preparation of the report, the ethics of the profession, the procedure to disclose fraud and defalcations, are studied and discussed.

The work of the course will include the study of a textbook and the working of a laboratory set for an audit of a textile manufacturing company. Refinements and changes in audit procedure, resulting from advances in the profession and from criticisms and requirements of such governmental bodies as the Securities Exchange Commission, are included.

Prerequisite, A 21-22.

Income Tax Procedure (A 41-42).**Credit, 5 semester hours.**

This course embraces a practical application of the principles of the Federal Income Tax Law to concrete situations. The problems include the preparation of corporation, fiduciary, partnership and individual tax returns; claims for refunds, credit and abatement; records, reports, and requirements of Social Security and state and federal unemployment taxes; and the proper accounting procedure for tax records.

Prerequisite, A 21-22.

C.P.A. Problems (A 43-44).**Credit, 5 semester hours.**

This course is an analysis and study of C.P.A. Problems from examinations of state boards of accountancy and the American Institute of Accountants. There is included a study of the principles of municipal accounting with particular reference to the requirements of Connecticut laws and regulations, and the C.P.A. problems in the subject; institutional accounting with reference to methods peculiar to such institutions as colleges, hospitals, etc. A wide variety of problems is included, some of which are worked out under state examination conditions.

Prerequisite, Ec. 11-12, A 31-32. A 33-34 to be taken concurrently or presented as a prerequisite.

BUSINESS LAW

AERODYNAMICS (Ae)

Instructor: SAMUEL B. SHERWIN.

Elementary Aerodynamics (Ae 31-32). Credit, 5 semester hours.

This course includes the study of the properties of the atmosphere, use of experimental data to determine force on airfoils and other bodies due to air in motion, theory of airfoils of finite span, and overall performance analysis of typical airplanes, including the engine-propellor unit and the basic criteria for longitudinal stability.

Prerequisite, EM 35-36.

Advanced Aerodynamics (Ae 41-42). Credit, 5 semester hours.

The first semester includes the study of fundamental principles, data from wind tunnel, standard atmosphere, theory of lift of an airfoil, Prandtl theory of lift for a finite span, airfoil section design, effect of flaps, slots, and spoilers, spanwise lift distribution. In the second semester, emphasis is placed on performance calculations, stability and control, determination of tail surface loads, aerodynamic load calculations, compressibility effects, dives and pull-outs.

Prerequisite, AE 31-32.

BUSINESS LAW (L)

Instructors: DONALD E. COBEY, JOHN B. GRANT, GEORGE R. TIERNAN.

Law of Contracts and Business Associations (L 11-12).

Credit, 5 semester hours.

Contracts and agency will involve a study of the formation of contracts, capacity of parties, offers and modes of acceptance and other requisites; performance of contracts, conditions upon duty to perform, and discharge; the appointment of agents, and the creation of agency; the employment contracts; power of agent to bind his principal in dealings with third parties; duties of agent and principal to one another.

DRAWING AND DESIGN

Business Associations will involve the law relating to the formation and operation of the unusual types of business organizations, the rights and liabilities of partners among themselves and their relations to third parties, dissolution of partnership, limited partnership, the business trust, promotion and organization of corporations, the conduct of corporate affairs in their relation to the rights of stockholders and creditors.

Law of Sales (L 21).

Credit, 2½ semester hours.

The study of sales involves a detailed consideration of the laws governing the rights of parties engaged in the transfer of personal property. This covers questions of title, risks assumed, rights of creditors, express and implied warranties, buyers' and sellers' remedies, together with the business background out of which such relations arise.

Prerequisite, L 11-12.

Law of Commercial Paper and Bankruptcy (L 22).

Credit, 2½ semester hours.

This course treats of promissory notes, checks and bills of exchange with an analysis of their form and function in commercial transactions. A short survey is made of the National Bankruptcy (Chandler) Act.

Prerequisite, L 11-12.

DRAWING AND DESIGN (D)

Instructors: SAMUEL S. BOARD, JR., THOMAS ROBERTSON, WARREN M. ROHSENOW.

Engineering Drawing (D 21-22).

Credit, 5 semester hours.

This is an elementary course in engineering drawing designed to teach the use of instruments, the fundamental principles of projection, drafting room standards and conventions, lettering, selection and use of scales, orthographic projections, revolutions, developed surfaces, intersections and auxiliary views, and the making and dimensioning of complete working drawings of simple machine parts.

Engineering Drawing (D 31-32).

Credit, 5 semester hours.

This course is designed to develop the student's ability to visualize the assembly of machine parts. The work covers a review of the fundamentals of drafting, additional theory of orthographic projections and

ECONOMICS AND SOCIOLOGY

perspective sketchings, the making of detail and assembly drawings of simple machines involving the use of simple screw gear and level mechanisms.

Prerequisite, D 21-22.

Elementary Machine Design (D 33-34). Credit, 5 semester hours.

This course considers the analysis and design of such elements as fastenings, bearings, gears, shafts, clutches, pulleys and cams. Some machine parts are studied from the standpoint of kinematics, and their motions are analyzed.

Prerequisites, D 21-22, EM 21-22.

Advanced Machine Design (D 41-42). Credit, 5 semester hours.

The elements of machine design studied in the first year are unified in the complete design, by each student, of a punch press or other machine. Advanced problems, such as balancing and critical speeds, are considered the latter part of the year.

Prerequisites, D 33-34, EM 31-32.

Aircraft Stress Analysis (D 43-44). Credit, 5 semester hours.

This course considers the continuation of the theoretical work of Aircraft Structure, to include the resistance of thin-walled structures to compressive and shear loads, buckling resistance, stressed-skin construction of wings, fusilages and control surfaces. The course stresses analysis procedure for compliance with Army, Navy, or Civil Aeronautics Authority regulations.

Prerequisite, EM 41-42.

ECONOMICS AND SOCIOLOGY (Ec)

Instructors and assistants: LAWRENCE L. BETHEL, FRED J. DAWLESS, HENRY W. LITTLEFIELD, EUGENE J. ROSAZZA, GEORGE H. E. SMITH, J. WATSON WILSON.

Socio-Industrial Trends (Ec A-B). A two semester course.

This course represents a break with traditional subject areas in that important events in the development of the United States are taught in relation to current trends. Basic background information essential for

the student who anticipates entering business and industry is studied. Units offered in the course include: (1) new and old economic patterns, (2) growth of industry and agriculture, (3) labor and management, (4) income and wealth, (5) modern taxation, (6) contributions of science, (7) population trends, (8) new culture patterns, (9) citizenship, and (10) war and peace aims. A brief survey of American political history is included for students desiring to prepare for the state high school equivalency examinations.

Economics (Ec 11-12).

Credit, 5 semester hours.

Economics takes for its field the study of principles, institutions and practices by which people gain a livelihood. The course consists of a brief survey of economic history; a study of the institutions through which economic activities are carried on; and a detailed examination of the principles and processes bearing upon production, exchange and consumption, both in relation to the individual enterprise and to society at large.

Industrial Management (Ec 21).

Credit, 2½ semester hours.

This course deals particularly with directing the application of the forces of labor and machinery to materials for the efficient production of the commodity. The following subjects are considered: history of industry, factors affecting industrial growth, ownership of industry, organization and policies, plant location and arrangement, planning and control of production, operation analysis, purchasing and stores, industrial accounting as a tool of management, wage payment systems, executive reports, mechanization of industry, and the economics of management. A text is used as a basis for the work, but the course is strong in practical application of the basic principles of management taken from current industrial practice.

Personnel Administration (Ec 22).

Credit, 2½ semester hours.

Emphasis is given to the new and progressive employee-employer relationship. The following subjects are considered: the nature of personnel problems, development of labor relations, psychological aspects of labor relations, job analysis, aptitude tests, hiring the worker, labor turnover, education and training of employees, industrial health and safety, working hours and conditions, stabilization of employment, the aged worker, the security of the worker, labor unions, collective bargaining, wages and wage-payment, National Labor Relations Act. In addition to a basic text, collateral reading on current industrial relations is used to provide a contemporary background for class discussion in this rapidly moving phase of industry.

Social Problems (Ec 31-32).

Credit, 5 semester hours.

This course is designed for mature students who may feel the need for a better understanding of present day social trends, social problems, and social programs. Much emphasis is placed upon the chief objectives: (1) to develop a critical, reliable technique of thinking through present day problems; (2) to understand fully the facts and arguments behind all proposals for social reform. Problem areas considered in the course include the family, population changes, health, labor, conservation, agriculture, housing, crime, education, international relations, capitalism, fascism, communism, and socialism.

Marketing and Sales (Ec 33-34).

Credit, 5 semester hours.

This course deals with the principles and problems involved in the distribution of merchandise. There is a study of the basic structure of markets and the function of assembling, grading, storing, financing, and transporting goods. A study is made of techniques utilized in marketing analysis and sales practices.

(Omitted 1944-1945.)

Sales and Advertising (Ec 35-36).

This course is designed to teach the fundamental principles of sales methods. It develops an understanding of the importance of "knowledge of product," pre-approach, approach, presentation, technique of sales argument, quotation procedure, demonstration methods, credit investigation, meeting sales resistance, transportation and delivery facilities, discount practice, routing, technique of close. Those at present engaged in sales work and those contemplating taking up selling as a profession will find the course of equal value.

The advertising emphasis deals with the various media used in local and national advertising programs.

(Omitted 1944-1945.)

Budgetary Planning and Control (Ec 41-42).

Credit, 5 semester hours.

This course is designed to meet the growing demand of business and government for increased knowledge of how to plan operations and how to set up the requirements of those operations in simple but orthodox accounting form. The first semester is devoted to the development of the theoretical background of the master and subsidiary budgets, their nature, purpose, advantages, and limitations. A study of co-ordinated financial policy based upon budgetary control concludes the first semester's study.

Emphasis is given to laboratory work in the second semester. Sample budgets in both the private and public field are constructed and co-ordinated. Deductions and recommendations resulting therefrom are set up in accompanying reports.

Prerequisite, A 11-12.

Management-Labor Relations (Ec 101).

Credit, 2½ semester hours.

A survey course designed to provide an understanding of the problems involved in Management-Labor Relations through a study of background material and current practices. The course includes collective bargaining and the labor contract; the government and legal framework of management-labor relations; problems of wages, hours, working conditions and grievance procedure. Where possible, the course is developed by conference methods and with the aid of guest speakers.

ELECTRICITY (EE)

Instructors: FRED J. BECK, RUFUS G. FELLERS, CHARLES F. SPITZER, FELIX ZWEIG.

Direct Current Circuits and Machinery (EE 21-22).

Credit, 5 semester hours.

Fundamental theory of electric and magnetic circuits and its application to direct current machinery are considered. The course includes laboratory work in measurements of electrical quantities and characteristics of direct current motors and generators.

Prerequisite, M 11-12.

Survey of Electrical Engineering (EE 23-24).

Credit, 5 semester hours.

The emphasis in this course is placed on the industrial application of the principles of electrical engineering. The operating characteristics of electrical devices are studied. The method of instruction includes recitation, lecture, computation, and laboratory periods in circuits, machinery, and thermionics. (Omitted 1944-1945.)

Prerequisite, M 11-12.

ENGINEERING MECHANICS

Alternating Current Circuits (EE 31-32). Credit, 5 semester hours.

Fundamental theory of single phase and polyphase alternating current circuits, instruments and measurements is considered. Suitable laboratory work is included.

Prerequisites, EE 11-17, M 21-22.

Alternating Current Machinery (EE 41-42).

Credit, 5 semester hours.

This course deals with the fundamental principles of alternating current machinery and an introduction to the theory of electronic tubes, with emphasis on the industrial and economic aspects of their application. About one-quarter of the time is devoted to laboratory work.

Prerequisite, EE 31-32.

Advanced Electricity (EE 101-102).

Credit, 5 semester hours.

This is a continuation and an extension of the undergraduate electrical courses with emphasis on laboratory practice. Its content is standard commercial tests and precise laboratory measurements together with sufficient classroom and library study for their understanding.

The subject matter and progress are determined in a large part by the students. (Omitted 1944-1945.)

Admission to the course by permission of Dr. Bethel and Dr. Beck.

ENGINEERING MECHANICS (EM)

Instructors: FREDERIC W. KEATOR, WARREN M. ROHSENOW,
EVERETT O. WATERS.

Mechanics (EM 21-22).

Credit, 5 semester hours.

In the first semester, the theory and application of the principles of static equilibrium, stress in framed structures, center of gravity and moment of inertia; force, mass and acceleration, and friction are studied.

In the second semester, rectilinear and curvilinear motion; work, power and energy; impulse and momentum; and a practical study of machine elements and problems in machine design are considered.

Prerequisite, M 11-12.

Strength of Materials (EM 31-32).**Credit, 5 semester hours.**

This course considers the theory of stress and resistance of materials; stress distribution in riveted joints, shafts, beams, and columns; principal stresses; laboratory practice in materials testing; hardness, fatigue and impact strength; and problems in machine design and building construction.

Prerequisite, EM 21-22.

Mechanisms (EM 33).**Credit, 5 semester hours.**

Mechanism is a study of the motions of the parts of machines and the transmission of forces in these machines. It is a basic course giving the student an insight into the kinematics of any machine. It is both mathematical and graphical in character. (Omitted 1944-1945.)

Prerequisite, EM 21-22.

Fluid Mechanics (EM 35-36).**Credit, 5 semester hours.**

In this course, the following fundamentals are studied: physical properties of fluids, hydrostatics, kinematics and continuity, dynamics of ideal and of viscous fluids, single airfoils, potential flow and circulation, and heat transfer. Emphasis will be given to the applications of fluid mechanics to aerodynamics.

Prerequisite, EM 21-22, M 21-22.

Aircraft Structures (EM 41-42).**Credit, 5 semester hours.**

This course includes the study of mechanics of materials applied to the simple structural elements comprising an airplane, such as; beams, trusses, shafts and columns, with emphasis on displacements as well as stresses, and the more elementary examples of static indeterminacy; Castigliano's theorem and the method of least work, theories of failure for ductile and brittle materials.

Advanced Strength of Materials (EM 101-102).**Credit, 5 semester hours.**

This course includes the analysis of beam columns, curved bars, thin plates, rotating disks and other important structural units. Emphasis is placed upon photo-elastic and other experimental methods of determining distribution of stress. Theories of failure are also studied.

Prerequisite: EM 31-32.

ENGLISH (E)

Instructors: DWIGHT C. ECKERMAN, JAMES M. ORR.

Basic English (E A-B)

This course is intended to meet the immediate needs of the student, whatever his previous preparation in the subject may have been. Special work is prescribed for those whose preparation is inadequate or for those who show need of review. The objectives of the course are: first, to teach the student the fundamental principles upon which good English is based; second, to give him practical experience in the use of English by written and oral drill; third, to improve by exercise his vocabulary and diction.

English Composition (E 11-12).

Credit, 5 semester hours.

The aim of this course in English is to improve the student's abilities in reading, writing, speaking, and thinking. The material chosen for reading is in the field of modern literature and is intended particularly to broaden the student's understanding of contemporary life and affairs. The writing assignments include short papers, reports, and letters. Oral discussion, vocabulary building, and speech-making receive adequate attention. In all phases of the work, proper emphasis is given to clear and accurate thinking on the part of the student.

Public Speaking (E 21-22).

Credit, 5 semester hours.

The object of this course is to improve the student's ability to talk correctly and forcefully. It is designed to meet the needs of any person whose business or social activities require him to converse informally or to speak before an audience. During the course the student prepares and delivers his own talks on subjects in which he is interested.

The course teaches self-confidence, good enunciation, correct English, the use of gestures, platform etiquette, preparation of speech material, effective delivery, and audience psychology. Persons taking the course are aided by a text, class lectures, practice in various types of speaking, class exercises, and helpful criticism.

MATHEMATICS (M)

Instructors: NEWMAN A. HALL, FREDERICK C. JONAH, CARL R. KOSSACK, EGBERT J. MILES, HARRY A. STRAW.

Elementary Mathematics (A-B, C-D).

Four semesters.

Plane geometry and algebra are taught as one continuous course with emphasis on the algebra. The work in algebra includes the following topics: factoring, fractions, theory of equations, law of exponents, inequalities, ratio and proportion, problems, and many simple applications from physics. The principal propositions in plane geometry are discussed and proved, as far as possible, by the use of algebra. Special emphasis is given to the solutions of originals in plane geometry.

Admission to the course is on the basis of the high school record and the general examination required of all entering students.

Basic Mathematics (M 11-12).

Credit, 5 semester hours.

The two-year course in mathematics is designed to be one of continuous development. Mathematics 11-12 is the basis of what follows during the second year. Here, the student learns to state known information about related quantities in mathematical form and to apply operations already learned to this statement so as to obtain new information. The fundamental ideas are illustrated by reviewing topics studied in algebra and geometry. Then the necessity of the limit operation is motivated and its basic consequences considered. Subsequently the general ideas of the differential and integral calculus are developed.

Basic Mathematics (M 21-22).

Credit, 5 semester hours.

A short time is spent reviewing the concept of limit of a function. The work then proceeds to the consideration of the application of the calculus to problems in geometry and the physical sciences. Among the applications considered is the use of differential equations of the second order with constant coefficients.

Prerequisite, M 11-12.

METALLURGY

Advanced Engineering Mathematics (M 101-102).

Credit, 5 semester hours.

This course consists of a study of engineering problems illustrating applications of advanced mathematics. Among the topics considered are: Nomograms, ordinary differential equations, algebraic equations, matrices and determinants, numerical integration and interpolation, errors and statistical analysis of test data, partial differential equations and their solutions by conformal transformation. Numerical and approximation methods are emphasized.

Prerequisite, M 21-22, EM 31-32.

METALLURGY (Mt)

Instructor: ROBERT M. BRICK.

Properties of Materials (Mt. 31).

Credit, 2½ semester hours.

The aim of this course is to familiarize the student with the important properties of metals and materials, and the principal tests used in their determination. It seeks to give an insight into the adaptability of materials for particular products. (Omitted 1944-1945.)

Prerequisite, EM 1-2.

Metallurgy (Mt. 32).

Credit, 2½ semester hours.

This is an elementary survey of metallurgy involving the laboratory analysis of metals, a study of their internal structure and composition, and how these are changed by strains, heat, and applied forces.

(Omitted 1944-1945.)

PROJECTS (Pr)

Instructors: C. E. BOOTH, WALTER D. FRANCE, FREDERIC W. KEATOR,
BRUNO A. MOSKI.

Engineering Problems (Pr. 11-12).

Credit, 5 semester hours.

This is an elementary course covering some of the fundamentals of several branches of engineering. It includes use of the slide rule, applied mathematics, and graphical methods of presentation and analysis.

The second semester consists mainly of a course in problems based on engineering principles, supplemented by discussion periods and lectures. The course serves to orient the student and helps to present a survey of the engineering profession, so that he may better understand the methods of thought and work. The aim is to develop in the student a habit of using correct methods of thinking and analysis in the solution of engineering problems.

Power Plants (Pr. 41-42).

Credit, 5 semester hours.

This course aims to acquaint the student with the equipment of power plants, fuel and combustion, characteristics of power-producing apparatus, and the recovery of waste heat. The various types of power plant apparatus are studied. While the course deals primarily with steam power, hydraulic and internal-combustion machines are also discussed.

Prerequisite, E.M. 21-22.

Senior Problems (Pr. 43-44).

Credit, 5 semester hours.

This is a course designed for seniors in the various engineering curricula. Carefully chosen problems which involve many phases of engineering constitute the background of the course. Every attempt is made to deal with the problems in detail as they would be treated in engineering practice. Several instructors collaborate in the presentation and discussion of the various phases of the work.

Open to seniors only.

PSYCHOLOGY (P)

Industrial Psychology (P 31-32).

Credit, 5 semester hours.

This course is designed for those students who desire a better understanding of human behavior and the way personality operates in a world of other personalities. A brief survey is made of the psychological foundations of individual behavior, personality, and group participation, personality and subjective patterns, and the characteristics of group behavior. The course purposes to help students relate the principles of psychology to contemporary problems of business and industry.

(Omitted 1944-1945.)

INDEX

Accounting	29, 33, 34	Law of Commercial Paper	
Administration, Officers of	18	and Bankruptcy	37
Admission	10, 11	Law of Contracts and	
Aeronautical Engineering	29, 30	Business Associations	36
Aerodynamics	36	Law of Sales	37
Aircraft Stress Analysis	38	Library Facilities	4
Aircraft Structures	43	Loan Fund, Student	14
Alternating Current Circuits	42	Machine Design	38
Alternating Current		Management-Labor Relations	41
Machinery	42	Marketing and Sales	40
Auditing	35	Mathematics	45, 46
Budgetary Planning and		Mechanical Engineering	32
Control	40	Mechanics	42
Business Administration	30	Mechanisms	43
Business Law	36	Metallurgy	46
C.P.A. Problems	36	Personnel Administration	39
Chance Vought Aircraft	25, 27	Placement Service	14
Committees, Faculty	18	Power Plants	47
Coöperation with Industry	5-7	Programs of Study	8, 29
Cost Accounting	34	Properties of Materials	46
Courses, Description of	33	Psychology, Industrial	47
Credit by Examination	12	Public Speaking	44
Degrees	8	Qualifying Academic	
Direct Current Circuits		Certificates	11
and Machinery	41	Registration	10
Drawing and Design	37	Sales and Advertising	40
Economics	38, 39	Sales and Service Engineering	32
Electrical Engineering	31	Schedule of Classes	12
Electricity	41-42	Scholarships	15
Engineering Drawing	37	Senior Problems	47
Engineering Mathematics	46	Social Problems	40
Engineering Mechanics	42	Socio-Industrial Trends	38
Engineering Problems	46	Sociology	38
English	44	Strength of Materials	43
ESMWT	16	Student Activities	16
Executive Committee	17	Survey of Electrical	
Faculty	19-24	Engineering	41
Fees	27-28	Transfer of Credit	12
Fluid Mechanics	43	Transitional Courses	25
General Information	3	Tuition	27, 28
Governors, Board of	17	Trustees, Board of	17
Grading System	13	Unclassified Students	9
Graduation Requirements	14	Unit Courses	9
History of College	4	Withdrawal	14
Income Tax Procedure	35	Work-Study Program	5-6
Industrial Engineering	31	Yale University, Coöperation of	4
Industrial Management	39	Y.M.C.A.	4

CALENDAR 1944-45

Fall and Winter

First Semester

		1944
Registration period closes	Monday	October 2
Equivalency Examinations		October 3, 5
Freshman Placement Examinations		October 4, 6
Classes begin	Monday	October 9
Thanksgiving Day—holiday	Thursday	November 23
Examinations begin	Wednesday	December 13
Examinations end	Friday	December 15

Second Semester

		1945
Classes begin	Monday	January 8
Washington's Birthday—holiday	Thursday	February 22
Examinations begin	Wednesday	March 14
Examinations end	Friday	March 16

Spring and Summer

First Semester

Registration period closes	Thursday	March 29
Freshman Placement Examinations		April 2, 4
Equivalency Examinations		April 3, 5
Classes begin	Monday	April 9
Memorial Day—holiday	Wednesday	May 30
Examinations begin	Friday	June 15
Examinations end	Monday	June 18

Second Semester

Classes begin	Monday	July 9
Labor Day—holiday	Monday	September 3
Examinations begin	Friday	September 14
Examinations end	Monday	September 17



